Therefore, Applicant submits that the Examiner's rejection of claim 2 under 35 U.S.C. § 112, second paragraph, is obviated. Thus, Applicant submits that claim 2 is in condition for allowance.

The Examiner has rejected claim 2 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, with the Examiner alleging such omission amounting to a gap between the necessary structural connections. The Examiner states that the omitted structural cooperative relationships are that "indispensable messages" and "essential messages" are indefinite.

Applicant respectfully disagrees. Applicant again refers to Fig. 4 and page 10, line 24, through page 11, line 28, of the specification. Applicant submits that, when read in conjunction with base claim 1, claim 2 recites relationships between elements. Claim 1 includes the language "enqueuing the plurality of call signaling messages into the call processing queue based on types of call signaling messages," and claim 2 states that "the types of call signaling messages include dispensable messages, indispensable messages, and essential messages." Thus, the relationship between elements is clearly understood when claim 2 is read in its entirety, including the limitations of base claim 1. Moreover, Applicant notes that explanation and examples of "indispensable messages" and "essential messages" are provided in the cited portions of the disclosure. Applicant submits that one of ordinary skill in the art, with the benefit of the disclosure provided by the specification, would readily appreciate the nature of an essential call signaling message type and the indispensable call signaling message type, especially in view of the stated examples and the understandings that such an examples would connote. Therefore, Applicant submits that neither "indispensable messages" nor "essential messages" is indefinite. Thus, Applicant submits that claim 2 is in condition for allowance.

The Examiner has rejected claim 9 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, with the Examiner alleging such omission amounting to gap between the necessary structural connections. The Examiner states that the omitted structural cooperative relationships are that the relationship between "dequeuing" and "first dequeuing manner" is omitted.

Applicant respectfully disagrees. Applicant submits that the relationship between the "dequeuing" and "first dequeuing manner" is clear, in that the "first dequeuing manner" is a first manner in which the "dequeuing" is performed, as is readily apparent from simply parsing the

language of claim 9. Thus, Applicant submits that the Examiner's rejection of claim 9 is obviated. Therefore, Applicant submits that claim 9 is in condition for allowance.

The Examiner has rejected claims 1, 2, 14, 22, 23, 25, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehi (U.S. Patent No. 6,134,216) in view of IBM Technical Disclosure (Vol. 34, No. 9, February 1992). The Examiner states that Gehi fails to explicitly teach enqueuing the messages based on its type. The Examiner states that IBM teaches having messages enqueued based on their type ("enqueued message types" and "message of the corresponding type to be enqueued," page 170, paragraph 2). The Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of enqueuing call signaling messages based on its type to the existing system of Gehi in order to increase selectivity of the contents in the processing queue.

Applicant respectfully disagrees. Applicant submits that Gehi et al. fail to disclose the steps cited by the Examiner. As an example, Applicant submits that Gehi et al. fail to disclose the steps of "comparing a queue occupancy level of a call processing queue with a first queue occupancy threshold" and "when the queue occupancy level compares unfavorably with the first queue occupancy threshold, enqueuing the plurality of call signaling messages into the call processing queue based on types of call signaling messages." Gehi et al. state, in col. 4, lines 26 and 27, that "...S(n) is compared against two thresholds X(min,i) and X(max,i)...." Furthermore, Gehi et al. state, in col. 4, lines 3-15, that "X(n) represents the measured utilization over interval (n). The measure that is used for short-term control during interval (n) is represented as S(n). This measure is a filtered version of X(n) such as from the following expression: $S(n)=a(1)X(n)+a(2)X(n-1)+...+a(W(S))X(n+1-W(S))$ where, a(j) is the filtering (smoothing) factor applied for the measured utilization over the j'th interval from the most recent measurement, and a(1) is the smoothing factor for the most recent measurement interval. S(n) when measured at a given time interval (n) reflects the smoothed value of the utilization over the past W(S) consecutive intervals." Thus, Applicant submits that S(n) of Gehi et al. does not constitute a queue occupancy level. Therefore, Gehi et al. does not disclose the step of comparing. Furthermore, while the Examiner cites Gehi et al.'s reference to "...level is changed to be at level (i+1)...," in col. 4, line 34, Gehi et al. states in col. 4, line 28, that "...i represents the present short term overload 'level'...." Thus, Applicant submits that Gehi et al. fails to disclose "enqueuing the plurality of call signaling messages into the call processing queue based on types of call signaling messages." Therefore, Applicant submits that, even if an attempt were made to combine the teachings of the cited

portion of Gehi et al. with the teachings of the cited portion of the IBM Technical Disclosure Bulletin, the attempt still would not yield the claimed invention, as Applicant submits that neither reference discloses or suggests the steps cited above. Moreover, while the Examiner states that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of enqueuing call signaling messages based on its type to the existing system of Gehi in order to increase selectivity of the contents in the processing queue," since Gehi et al. does not, in fact, disclose "enqueuing the plurality of call signaling messages into the call processing queue based on types of call signaling messages," no such motivation would have existed to combine the cited reference. Applicant submits that there is no suggestion in the prior art to motivate any attempt to combine the cited references. Therefore, Applicant submits that claims 1, 2, 14, 22, 23, 25, 32, and 33 are in condition for allowance.

Referring to claims 2, 15, 23, and 33, the Examiner states that Gehi in view of IBM fails to explicitly teach using dispensable, indispensable, and essential messages as type of call signaling messages. The Examiner, however, states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a dispensable type of message to the existing system of Gehi and IBM for the reasons of maximizing the communication efficiency by minimizing wasteful communication resources.

The Examiner states that the Office interprets "essential messages" to mean those that have any sort of relevance. Therefore, the Examiner concludes, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include relevant types of messages o the existing system of Gehi and IBM because they are considered important. In addition, the Examiner further concludes, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include indispenable messages for the reason of having more message types for selectivity.

Applicant respectfully disagrees. Applicant cannot find any reference in the specification or drawings to support the Office's interpretation of "essential messages" to mean those that have any sort of relevance. Rather, Applicant again refers the Examiner to Fig. 4 and page 10, line 24, through page 11, line 28, of the specification. Applicant again notes that link layer information is given as an example of an essential call signaling message type (page 11, line 10). Applicant again submits that one of ordinary skill in the art, with the benefit of the disclosure provided by the specification, would readily appreciate the nature of an essential call signaling message type, especially in view of the stated example of link layer information and the understanding that such an example would connote.

Moreover, Applicant cannot find any reference in the specification or drawings to support the Examiner's apparent attempt to describe a dispensable type of call signaling messages in the context of what the Examiner terms "wasteful communication resources." Thus, Applicant submits that no support exists for the Examiner's attempts to show motivation to combine the teachings of the cited references. Consequently, Applicant submits that there is no suggestion in the prior art to motivate any attempt to combine the cited references. Therefore, Applicant submits that claims 2, 15, 23 and 33 are in condition for allowance.

Referring to claims 3, 7, 16, 24, 34, and 36, the Examiner states that Gehi in view of IBM fails to explicitly teach the following:

a) when message is dispensable, delete the previous dispensable message;

b) enqueuing new message when previous one is deleted;

c) enqueuing message into queue when message is indispensable or essential.

The Examiner, however, states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a) and b) to the existing system of Gehi and IBM for the reason of deleting the old values and adding the new values to the queue for updating reasons. In addition, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include c) to the existing system of Gehi and IBM for the reason of replacing the dispensable messages with both indispensable or essential ones.

Applicant respectfully disagrees. Applicant submits that the Examiner's argument for "deleting the old values and adding the new values to the queue for updating reasons" is inconsistent with the Examiner's previously asserted argument. For example, the Examiner referred to "a dispensable type of message" in the context of "wasteful communication resources," but now argues that it would be obvious to update messages that relate to "wasteful communication resources." Thus, if the Examiner adheres to the above cited argument, the teachings of the prior art would teach away from the present invention. Even if the Examiner were to abandon the above cited argument, Applicant submits that the Examiner has not shown how the prior art allegedly teaches any benefit from updating old values with new values, absent any teaching that such new values bear any relationship with such old values as to yield any benefit from such alleged updating. Therefore, Applicant submits that the cited references

fail to teach or suggest the subject matter of claims 3, 7, 16, 24, 34, or 36. Thus, Applicant submits that claims 3, 7, 16, 24, 34, and 36 are in condition for allowance.

Referring to claims 4, 6, 8, and 27, the Examiner states that Gehi in view of IBM fails to explicitly teach dropping the call signaling message if the previous dispensable one does not exist. However, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of increasing efficiency by removing wasteful resource material.

As Applicant has stated above, Applicant cannot find any reference in the specification or drawings to support the Examiner's apparent attempt to describe a dispensable type of call signaling messages in the context of what the Examiner terms "wasteful resource material." Thus, Applicant submits that no support exists for the Examiner's attempts to show motivation to combine the teachings of the cited references. Consequently, Applicant submits that there is no suggestion in the prior art to motivate any attempt to combine the cited references. Therefore, Applicant submits that claims 4, 6, 8, and 27 are in condition for allowance.

Referring to claims 5, 17, 25, and 35, the Examiner states that Gehi in view of IBM discloses a method consisting of the following:

- Comparing queue occupancy level with second threshold (compared against threshold X[min,I], col. 4, lines 24-49)

- When occupancy level compares unfavorably with threshold, dequeue call signaling messages into processing queue based on type of call signaling messages (level is changed to be at level (I-1) over the upcoming interval, col. 4, lines 24-49).

The Examiner states that Gehi in view of IBM fails to teach the following:

a) when message is dispensable, delete the previous dispensable message;

b) enqueuing new message when previous one is deleted;

c) enqueuing message into queue when message is essential.

However, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a) and b) to the existing system of Gehi and IBM for reason of

deleting the old values and adding the new essential values to the queue for updating the queue with relevant messages.

Applicant respectfully disagrees. Applicant submits that Gehi et al. fail to disclose the steps cited by the Examiner. As an example, Applicant submits that Gehi et al. fail to disclose the step of "comparing a queue occupancy level with a second queue occupancy threshold." As noted above, Gehi et al. state, in col. 4, lines 26 and 27, that "...S(n) is compared against two thresholds X(min,i) and X(max,i)...." Furthermore, Gehi et al. state, in col. 4, lines 3-15, that "X(n) represents the measured utilization over interval (n). The measure that is used for short-term control during interval (n) is represented as S(n). This measure is a filtered version of X(n) such as from the following expression: S(n)=a(1)X(n)+a(2)X(n-1)+...+a(W(S))X(n+1-W(S)) where, a(j) is the filtering (smoothing) factor applied for the measured utilization over the j'th interval from the most recent measurement, and a(1) is the smoothing factor for the most recent measurement interval. S(n) when measured at a given time interval (n) reflects the smoothed value of the utilization over the past W(S) consecutive intervals." Thus, Applicant submits that S(n) of Gehi et al. does not constitute a queue occupancy level. Therefore, Gehi et al. does not disclose the step of comparing. Furthermore, while the Examiner cites Gehi et al.'s reference to "...level is changed to be at level (I-1)...," in col. 4, line 36, Gehi et al. states in col. 4, line 28, that "...i represents the present short term overload 'level'...." Thus, Applicant submits that Gehi et al. fails to disclose enqueuing as recited. Therefore, Applicant submits that, even if an attempt were made to combine the teachings of the cited portion of Gehi et al. with the teachings of the cited portion of the IBM Technical Disclosure Bulletin, the attempt still would not yield the claimed invention, as Applicant submits that neither reference discloses or suggests the steps cited above. Moreover, while the Examiner states that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to include a) and b) to the existing system of Gehi and IBM for the reason of delating the old values and adding new essential values to the queue for updating the queue with relevant messages," since Gehi et al. does not, in fact, disclose enqueuing as recited no such motivation would have existed to combine and modify the teachings of the cited references. Moreover, Applicant submits that the Examiner has not shown how the prior art allegedly teaches any benefit from updating old values with new values, absent any teaching that such new values bear any relationship with such old values as to yield any benefit from such alleged updating. Applicant submits that there is no suggestion in the prior art to motivate any attempt to combine the teachings of the cited references. Therefore, Applicant submits that claims 5, 17, 25, and 35 are in condition for allowance.

Referring to claim 10, the Examiner states that Gehi in view of IBM fails to explicitly teach using at least one of FIFO and LIFO. However, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM because it is well-known that a queue can either operate as FIFO or LIFO.

Applicant respectfully disagrees. Applicant submits that the Examiner does not provide any evidence to substantiate the assertion "that a queue can either operate as FIFO or LIFO." Moreover, the Examiner does not provide any evidence to support an attempt to combine the teachings of Gehi et al. and IBM and then modify the supposed result so as to comprise at least one of FIFO and LIFO. Thus, Applicant submits that claim 10 is in condition for allowance.

Referring to claims 12, 20, 30, and 38, the Examiner states that Gehi in view of IBM fails to explicitly teach updating the plurality of dequeuing lists when the enqueuing changes occur. However, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this updating feature to the existing system of Gehi and IBM for the reason of improving accuracy and organization.

Applicant respectfully disagrees. Not only do neither of Gehi et al. nor IBM teach updating the plurality of dequeuing lists when enqueuing changes occur, but, as described in detail above, Gehi et al. and IBM further fail to teach "when the queue occupancy level compares unfavorably with the first queue occupancy threshold or when the queue occupancy level compares unfavorably with a second queue occupancy threshold." Thus, the is no suggestion in the prior art to combine the cited references, nor, if an attempt were made to combine them, would the claimed invention result. Moreover, there is no suggestion in the prior art to modify the cited references, when, in fact, the cited references lack all of the elements introduced by the cited dependent claims. Therefore, Applicant submits that claims 12, 20, 30, and 38 are in condition for allowance.

Referring to claim 18 and 26, the Examiner states that Gehi in view of IBM fails to explicitly teach dropping the call signaling message if the previous dispensable one does not exist. The Examiner states, however, that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of increasing efficiency by removing wasteful resource material. The Examiner states, in addition, that Gehi in view of IBM fails to explicitly teach enqueuing the message when the previously indispensable one is deleted. The Examiner states, however, that it would have been obvious to one of ordinary skill

in the art at the time the invention was made to include the feature of enqueuing the new message for the reason of adding the new values to the queue for updating reasons.

As Applicant has stated above, Applicant cannot find any reference in the specification or drawings to support the Examiner's apparent attempt to describe a dispensable type of call signaling messages in the context of what the Examiner terms "wasteful resource material." Thus, Applicant submits that no support exists for the Examiner's attempts to show motivation to combine the teachings of the cited references. Also, Applicant submits that the Examiner has not shown how the prior art allegedly teaches any benefit from updating old values with new values, absent any teaching that such new values bear any relationship with such old values as to yield any benefit from such alleged updating. Consequently, Applicant submits that there is no suggestion in the prior art to motivate any attempt to combine the teachings of the cited references. Therefore, Applicant submits that claims 18 and 26 are in condition for allowance.

The Examiner has rejected claims 9, 21, 28, and 31 under 35 U.S.C. § 103(a) as being unpatentable over Gehi (U.S. Patent No. 6,134,216) in view of IBM in further view of Holmes (U.S. Patent No. 5,999,969). Referring to claims 9, 13, 21, 28, 31, and 39, the Examiner states that Gehi in view of IBM fails to explicitly teach the use of dequeuing messages from a call processing queue when in sustained overloading condition. The Examiner states that Holmes teaches using a message dequeue operation (col. 25, lines 21-25) with a message queue as a call processing queue (message queues, col. 7, lines 35-37). The Examiner states, however, that Holmes fails to explicitly teach doing this in a sustained overloading condition. The Examiner further states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature to the existing system of Gehi and IBM for the reason of preventing a burst of overhead data and to stay under the switch's capacity.

Applicant respectfully disagrees. Applicant submits that the Examiner's asserted motivation of preventing a burst of overhead data teaches away from claims directed toward a sustained overloading condition. Therefore, Applicant submits that there is no suggestion in the prior art to attempt to combine or modify the cited reference in an attempt to yield the claimed invention as set forth in claims 9, 21, 28, and 31. Thus, Applicant submits that claim 9, 21, 28, and 31 are in condition for allowance.

The Examiner has rejected claims 11, 19, 29, and 37 under 35 U.S.C. § 103(a) as being unpatentable over Gehi in view of IBM in further view of Baldwin (U.S. Patent 6,310,952). Referring to claims 11, 19, 29, and 37, the Examiner states that Gehi and IBM fail to explicitly teach maintaining a plurality of dequeuing lists that track the following:

- locations in the call processing queue;

The Examiner further states that Baldwin teaches keeping track of that caller's location in a call queue (col. 4, lines 62-67). The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature of tracking the location to the existing system of Gehi and IBM for the reasons of having a "pointer" in the queue so comparisons can be made towards the threshold to determine when there is sustained overloading.

The Examiner states that the system of Gehi, IBM, and Baldwin fail to teach tracking the following:

- an ordered list of types of calling signaling messages;

- an ordered list of dispensable messages;

- an ordered list of indispensable messages;

- an ordered list of essential messages.

The Examiner states, however, that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include having types of calling signaling messages to the system of Gehi, IBM, and Baldwin for the reason of increasing selectivity of the contents in the processing queue. Furthermore, the Examiner states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a dispensable type of message to the existing system of Gehi and IBM for the reason of maximizing the communication efficiency by minimizing wasteful communication resources. The Examiner states that the Office interprets "essential messages" to mean those that have any sort of relevance. The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include relevant types of messages to the existing system of Gehi and IBM because the Examiner considers them to be important. In addition, the Examiner states that it would have been obvious to one of ordinary skill in the art at the

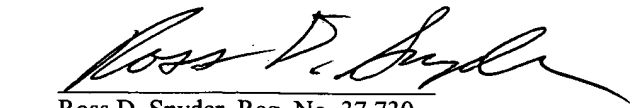
time the invention was made to include indispensable messages for the reason of having more message types for selectivity.

Applicant respectfully disagrees. Applicant cannot find any reference in the specification or drawings to support the Office's interpretation of "essential messages" to mean those that have any sort of relevance. Rather, Applicant again refers the Examiner to Fig. 4 and page 10, line 24, through page 11, line 28, of the specification. Applicant again notes that link layer information is given as an example of an essential call signaling message type (page 11, line 10). Applicant again submits that one of ordinary skill in the art, with the benefit of the disclosure provided by the specification, would readily appreciate the nature of an essential call signaling message type, especially in view of the stated example of link layer information and the understanding that such an example would connote. Moreover, Applicant cannot find any reference in the specification or drawings to support the Examiner's apparent attempt to describe a dispensable type of call signaling messages in the context of what the Examiner terms "wasteful communication resources." Thus, Applicant submits that no support exists for the Examiner's attempts to show motivation to combine the teachings of the cited references. Consequently, Applicant submits that there is no suggestion in the prior art to motivate any attempt to combine the cited references. Therefore, Applicant submits that claims 11, 19, 29, and 37 are in condition for allowance.

In conclusion, Applicant has overcome all of the Office's rejections, and early notice of allowance to this effect is earnestly solicited. If, for any reason, the Office is unable to allow the Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

12/31/2002
Date



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